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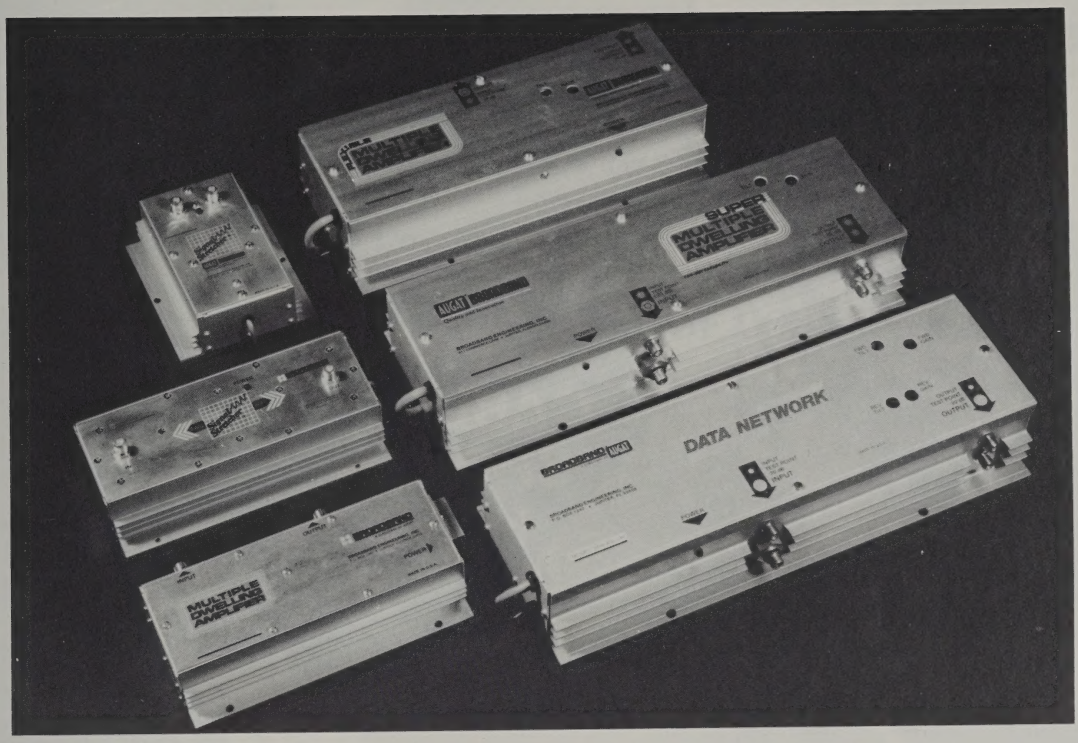

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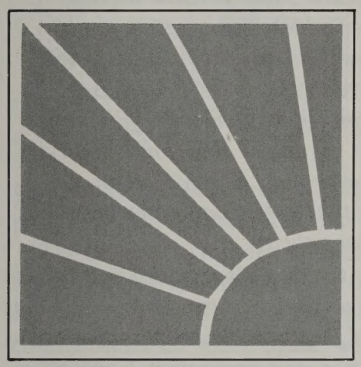

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ABOUT THE COVER

Lady Justice stands tall and erect, drawing attention to this month's Washington Update, dealing with the justice in the cause of the cable operators and scrambling.

Carl Schmauder CATA'S CHAIRMAN OF THE BOARD

THE CONGRESSIONAL CENSOR

There is an old saying; ". . . in the land of the blind, a one-eyed man is king." It is both a simple and a profound thought. What it means to me is that whoever is capable of getting the most information about his or her surroundings is bound to be in a better position to deal with those surroundings. Thus, since the "one-eyed" man is the only one who can see his environment, he is in better control of it.

There is another way of saying the same thing, and it is more likely to be the phrase you would hear in Washington:"information is power". Of course, the opposite is also true—if you can restrict the information that others get, you also have power. It appears that we are now facing a situation where the desire to control information has gotten to the point where the entire system of representational government is being adversely affected because of the indiscriminate use of power.

What am I driving at? Well, let's take a look at the diagram labeled "C-SPAN on CAPITOL HILL" You will see a very strange thing. C-SPAN, cable's public affairs network, is available in all Senate offices. But the members of the House of Representatives—the very members who C-SPAN is dedicated to sharing with the country, cannot see the C-SPAN transmissions.

Now it is no secret that CATA is a staunch supporter of C-SPAN. We have long said that it is probably one of the most important channels a cable system can offer the public. It is democracy in action, and it is something every cable operator can be proud of. After all, when we are criticized for "only providing the same old stuff that's on television" or "not living up to our promise", we can point to C-SPAN and instantly quiet the critics. We are not alone in that view. House Majority Leader Jim Wright (D-TX), in a speech to cable operators recently said:

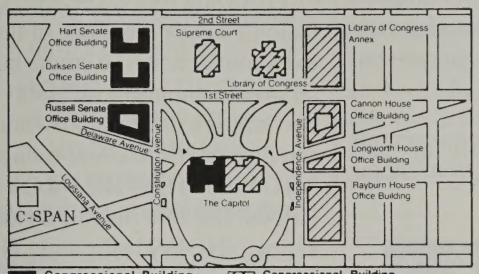
> *...What you and your industry actually have done has been to create what I would call the democratization of the airwaves.....you have created in C-SPAN America's town hall. I don't know if you fully appreciate the greatness and the strength of what you've done. Not since men would come together on the street corners in Athens and in the forum in the marketplace and there debated together the policies of which that city-state would be goverened, has any nation had quite what you have created in C-SPAN. It is the town hall for the nation. It is the only opportunity, I think, that any major democracy ever has had for all of its people to hear their elected representatives making major policies.*

It is ironic that the only place which takes active steps to prevent its viewers from seeing C-SPAN is the U.S. House of Representatives! All the more so because Washington, and particularly Congress, is often criticized for only perceiving what is going on in Washington, and not outside the Capitol City—in the "countryside" of the nation. C-SPAN, of course, offers an up-to-the minute look at the reality of the country by not only having unedited coverage of the House of Representatives (and soon hopefully the Senate as well), but also many of the major hearings going on on Capitol Hill and call-in shows daily giving feedback from viewers to the elected representatives and political commentators who appear on the network to discuss those major policy issues the good Congressman was talking about.

So why has the house been "blacked out"? Principally, as we understand it, because of one Congressman. He is Charlie Rose, (D-NC), who heads the panel that oversees the House telecommunications system. He has personally decided that C-SPAN should not be allowed on the system. He objects, apparently, to the fact that his panel cannot decide which hearings will be cablecast. Naturally, there is not enough air time to carry every Congressional hearing and every important policy address being given around the country, so C-SPAN has got to make some choices as to what to put on each day (other than the gavel-to-gavel coverage, that is, which always takes precedence). Presumably

C-SPAN on Capitol Hill

Senate Side Has It; House Offices Don't



would like to select who would be on the other programs that C-SPAN transmits as well.

The crux of the dispute, we hear, is that Mr. Rose doesn't really trust anyone else to be the programmer of C-SPAN, he would rather have that political control himseslf. Once again we are back at the theory of controlling information—and power, and the abuse of power. If there is really a concern about any untoward "bias" on C-SPAN, we would like to hear about it—after all, I have a seat on the C-SPAN Board of Directors—something could be done about it if there were any merit to such a claim. But we do not think there is. Indeed it is just the opposite. C-SPAN has a totally neutral stance with regard to the issues being debated—it allows the debaters to make their own points—that is what is so unique about C-SPAN. To turn over editorial control of the network to Congress and its byzantine ways would destroy the very thing the network has achieved: a clear window into the workings of government, and access for "just plain folks" from around the country to get their views back through that window directly to their representatives. It is indeed a sorry note when one Congressman can decide to "pull the blinds" on this opportunity for his colleagues to see, and be seen, by their constituents without the intervening hand of a censor who apparently would prefer that they remain "blind".

There is another phrase that comes to mind: "Power corrupts, and absolute power corrupts absolutely". □

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P·r·o·g·r·a·m·m·i·n·g N·o·t·e·s

SHOWTIME/THE MOVIE CHANNEL INC. SATELLITE SIGNALS TO BE FULLY ENCRYPTED ON MAY 27

SHOWTIME/THE MOVIE CHANNEL Home Satellite Service Center Opens

SHOWTIME/THE MOVIE CHANNEL INC. plans to scramble all satellite signals round-the-clock on May 27, 1986, as the key next step in the company's effort to secure its programming from unauthorized commercial signal piracy.

The company began accepting telephone inquiries from home dish owners at its Home Satellite Service Center, which is operated by First Data Resources, Inc., the nation's largest processor of third party transactions. To ensure both services' continued availability to the nation's 1.5 million home satellite earth station owners, SHOWTIME/THE MOVIE CHANNEL INC. has begun marketing SHOWTIME and THE MOVIE CHANNEL for $10.95 each or $16.95 for both when ordered together.

Callers to 1-800-722-8226 will promptly receive a detailed brochure through the mail outlining the necessary procedures for subscribing to SHOWTIME and THE MOVIE CHANNEL. The services are also available through participating affiliated cable operators within the defined boundaries of their franchise areas.

Stephan Wm. Schulte, Senior Vice President, Direct Broadcast Development, commented, "The advent of satellite scrambling has a two-fold benefit for our company as well as for the customer. First, it enables us to protect the integrity of our signals from piracy by unauthorized commercial operations and thereby to protect the rights of authorized paying subscribers." Mr. Schulte continued, "Unauthorized apartment complexes, hotels, bars and other commercial enterprises which illegally use our signal harm the consumer as well as SHOWTIME/THE MOVIE CHANNEL INC. and our program suppliers.

"Second," he added, "scrambling has opened a potential new revenue stream for us through our

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ability to sell our services to the growing number of backyard earth station owners. We look forward to making this a highly profitable new business opportunity." •

HOME BOX OFFICE LAUNCHES NEW HBO/CINEMAX INTERSTITIAL PROGRAMMING FEED

Home Box Office, Inc., launched a new HBO feed that will provide both HBO and Cinemax® programming information to HBO subscribers during interstitial breaks. The new satellite feed is initially being made available to affiliated cable systems now receiving the HBO East Coast feed.

Dick Beahrs, senior vice president, Cinemax marketing and sales, said the new feed is an innovation in HBO's network programming that offers affiliates and subscribers substantial long-term benefits.

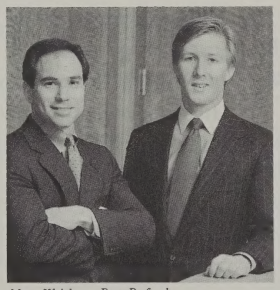
"This new Combo feed provides cable systems with an optional and invaluable informational tool at no extra cost," he said. "It is a unique opportunity for operators to furnish convenient program and scheduling information to their subscribers on the most popular combination in pay television."

Beahrs said the new feed is transmitted on transponder 1 of the Galaxy I satellite. It runs as an eight-hour segment of the 24-hour HBO feed, with interstitial HBO and Cinemax programming information spots between HBO programs from 6 p.m. to 2 a.m. (Eastern Time). The regular HBO feed continues to be carried on transponder 23 on Galaxy I.

"HBO's interstitial promotion of upcoming programs has proven extremely effective in informing, entertaining and retaining subscribers," he said. "Now, with the Combo feed, operators will be able to deliver informational messages to current HBO subscribers which will maximize their use and enjoyment of both the HBO and Cinemax services."

According to Beahrs, the Combo feed will feature a variety of interstitial messages. These include 25-second combo "Tonight On" program listings of current HBO and Cinemax titles. □

BIG NEWS FOR SMALL SYSTEMS.



Marc Weisberg, Ross Buford

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THERMAL CHARACTERISTICS OF MODERN FEEDFORWARD CATV AMPLIFIERS

INTRODUCTION

CATV system performance has become extremely important in recent times. Previous amplifier technologies have proven inadequate to meet the new performance demands required for competitive system operation. Feedforward technology has matured so that it can now meet these performances demands while offering reliable system operation.

Previous attempts at feedforward have been unable to operate at a sufficient level of reliability to make them practical. One of the most devastating factors limiting reliability was thermal variations. This application note deals with this problem and presents the manner in which modern single hybrid approaches have eliminated it.

by Lamar West
Scientific-Atlanta, Inc.

SECTION I: STATION THERMAL CHARACTERISTICS CHARACTERISTICS

The reliability of the active components within a trunk station is directly related to the average component operating temperature. The introduction of feedforward has resulted in a significant increases in the power dissipation of a trunk station. Consequently, thermal design of the station has become a significant factor in station performance and reliability.

The following is a brief presentation of the thermal analysis of a particular trunk station (Scientific-Atlanta) loaded with feedforward electronics. The presentation deals with a fully loaded station under extremely severe operating conditions and therefore is intended as a worst case analysis. Most station configurations will result in significantly lower power dissipations and operating temperatures due to less electronics and lower ambient temperatures. Moreover, the conclusions drawn may not be applicable to other manufacturer's equipment.

The calculations presented are for a housing aerially mounted in a 50°c (122°F) environment with the sun shining directly on the finned strand side external housing surface. The solar radiation absorption encountered in this configuration is approximately equivalent to assuming an ambient temperature environment of +60°c (+140°F) with no solar loading.

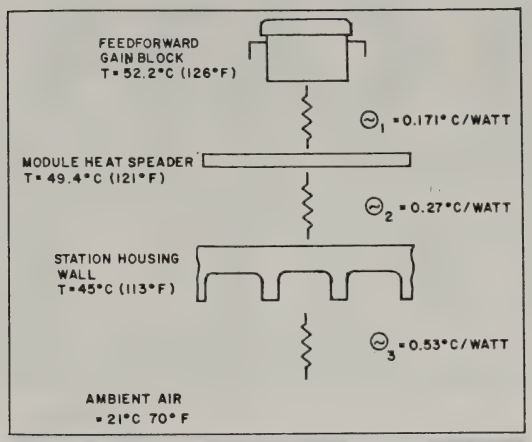


FIGURE 1

There are four **major** sources of power dissipation in the fully loaded feedforward trunk station:

1. Power Supply Module 16.3 Watts
2. Feedforward Trunk Module 21.6 Watts
3. Feedforward Bridger Module 20.4 Watts
4. Reverse Module 5.3 Watts

The station is designed so that all of these modules mount directly to the finned external walls of the station. Note that this manufacturer's station has unusually large external surface area.

A fully loaded feedforward trunk station was instrumented with eleven thermocouples so that internal temperatures could be measured. A twelfth thermocouple was used to measure the ambient temperature. Measurements were taken at +21°c (+70°F). A summary of the thermocouple locations and measured temperatures follows:

Trunk Amplifier (450MHz FF)

1. Module Air (in area of FF block) 122°f (50°C)
2. FF Block Sink (side of block near top) 126°F (52.2°C)
3. Bottom of Module Heat Spreader (under FF block) 121°F (49.4°C)
4. Housing Beneath Trunk Module 113°F (45°C)

Bridging Amplifier

5. Module Air (in area of FF block) 120°F (48.8°C)
6. Bottom of Module Heat Spreader (under FF block) 120°F (48.8°C)

Automatic Control Module

7. Module Air 130°F (54.4°C)

Status Monitoring Transponder

8. Module Air 131°F (55°C)

Transformer

9. Core 136°F (57.8°C)

Power Supply Module

10. Module Air (around voltage regulator) 128°F (53.3°C)
11. Housing Beneath Module 101°F (38.3°C)

The feedforward gain block is mounted to a module heat spreader which is in turn mounted to the outside station housing wall. The data presented above can be used to calculate thermal resistances of these interfaces. The module heat spreader is required to accommodate the modular design of the Scientific-Atlanta trunk station.

There are three forms of heat transfer within the trunk station and from the station housing to its enviroment — conduction, convection, and radiation. Conduction and convection are essentially linear with respect to the temperature gradient (delta T) between the station and ambient. Radiation transfer is proportional to delta T raised to the fourth power (radiation becomes more efficient at higher values of absolute temperature). It has been shown that conduction is the major source of heat transfer in trunk station. Consequently, it can be assumed as a worst case analysis that there is a constant temperature rise internal to the station with respect to outside ambient.

The measured data indicates a feedforward hybrid heat sink temperature of 52.2°C (126°F) with an outside ambient temperature of 21°C (70°F). If we assume a constant temperature delta between the inside of the station and outside ambient of 31.2°C (56°F) and we assume

(continued on page 24)

CATA '86

A·N·N·U·A·L C·O·N·V·E·N·T·I·O·N

JULY 15-17

MGM GRAND HOTEL • RENO

Management

Technology

The CATA Show, this year focusing on "The Consumer Connection", will be kicking off in high style on July 15 at the MGM Grand Hotel, in Reno Nevada. It promises to be quite an event. As usual, we are maintaining our focus on the seminars and working sessions at the Show—there will be plenty of information to exchange and digest by the end of this meeting! But that's not all—naturally we will be having our exhibit floor and the CATA traditions of a "Consultant's Corner" right on the exhibit floor so you can get detailed answers to your questions from some of the experts who will appear on the panels as well as another "Donahue style" opening session highlighting one of the hot issues of the day. It promises to be quite a meeting—one that is geared to cable owners and operators, and one that we guarantee you will come away from with valuable information and ideas to improve your system performance.

"Information exchange" is, after all, the heart of the CATA Show. It is working meeting. But of course there will be time for play, too. Unlike years gone by, the CATA membership voted directly to have this year's meeting in Reno. You won't believe the size of the casino at the MGM Grand! Clearly, with the kids growing up, the CATA operators have decided that instead of having a "kids" program this year they wanted to "play" themselves—and there is no question that if you are interested in that sort of thing, Reno is the place to be!

What's on tap on the formal agenda of CATA 86'? Well, in looking at the current state of cable , we decided that one of the big, and confusing issues is the "Consumer Connection"—and in one way we mean that literally—how does the consumer deal with a connection to his or her new stereo VCR? What about taping one channel while watching another? Can your subscribers really take advantage of their new stereo television sets or are they mad at you because they can't? What about offering a service of "upgrading" your subscribers' present set so it provides stereo sound without there having to make a major new investment? Think you would be a hero? What if you provided the special "connection" that allowed your subscribers to finally use their VCR's to maximum benefit while being on the cable system— do you think they would ever unhook those wires? Well, you get what we mean—that's the "Consumer Connection", and we will have several panels dealing with various aspects of the problem at the show along with a full blown discussion of the technical, financial, and marketing implications of Pay-Per-View. Is it another "Consumer Connection" or is it a "wrong number". There will be several points of view aired on the issue—from folks who have operating experience in the field to those making equipment that they claim will allow any system, no matter the size, benefit from addressability.

Of course all the CATA Show panels offer an "open forum", and if the past is any indication, CATA Show attendees are not shy about speaking their mind and challenging the panelists. A lot of the

best discussions spill out into the halls and continue for hours! That's what we mean by a "working meeting". CATA Shows have always been known for their informality (a "no-tie" policy has been maintained for more than 10 years!) and the wide-ranging exchange of information by folks who really know what they are talking about—the cable operators themselves. The operators, managers, and owners of cable systems are the focus of this meeting. Join us, and find out what we mean!

What's the "burning issue" this year that will occupy our opening session? Well, as most of you will remember, last year it was scrambling—and we had an absolutely blockbuster panel with folks glued to their seats for the entire morning! This year we want to look at the entire relationship between cable operators and cable programming. We have tentatively titled the session "what do we want to be when we grow up?" There are clearly some very different views on the subject—from those who maintain that programming is the name of the game, and that the cable industry has to produce its own programming to start really competing with the networks, to those who say we are essentially a delivery mechanism for the entertainment programming of others and that it really doesn't matter whether we deliver the programming by wire, TVRO, VCR, or whatever, we should be in all of those businesses.

Do we really want to subsidize the programming industry to a greater extent and thereby differentiate our product from other available programming or do we want to act as the delivery mechanism only and let the programming industry fight it out by themselves? We'll have both operators and programmers on the panel and you will be able to get your two cents in throughout the session.

But that's not all! There will be open forum panels on the entire question of scrambling and TVRO sales—is it a market that cable operators really want to get in to? And what about the massive change in attitude we are facing next January when rate deregulation takes place? Should you redesign your program packages when that fateful day comes? How about negotiations with the program suppliers—do you really know how to deal with those contracts and what they say? We'll have the experts there to work with you on understanding the in and outs of those negotiations (and yes, they can be negotiations, not ultimatums).

There will be plenty of other working sessions too, from a new look at amplifier cascading to an opportunity to sit in the "consultant corner" with one of the top experts on franchise renewals. The time spent there could be worth the trip all by itself!

Of course there are plenty of other things to do as well. The tour to Virginia City is great for the whole family and there is a very well organized shopping tour as well. Both are available directly from the hotel and you will see that we have asked you to indicate any preferences right on the application form. The side-trips are not a part of the meeting, but we will be helping to facilitate any CATA groups that want to go. Another "must" is the floor show at the Grand. Again, since this isn't for everyone, you will be on your own in terms of deciding whether you want to get tickets to the show or not—but we will be organizing a "CATA night" at the show so that friends can all go together if they want to. We'll let you know more about the details of which performance has been selected, and how to get the tickets after you register. **SO PLEASE—REGISTER EARLY!!** There is only one way we can help you create your own personalized itinerary in Reno, and that's if you let us know what you want to do—and give us enough time to spot the the trends. Of course even without any organization at all, Reno is an incredible place to have the CATA Show, since you can take your pick, on your own, of the activities you want. JOIN US FOR THE INFORMATION AND THE FUN IN RENO! PLEASE RETURN YOUR REGISTRATION FORM AND HOTEL RESERVATION FORM TODAY!

As we said, this is a jam-packed show, and one that is designed with the cable operator in mind. It is for the working front-line people in the industry and there is little doubt that you and your staff will walk away from it with a wealth of information—and, if you are so inclined—and lucky—a little more wealth in your pocket too!

SEE YOU IN RENO!

(Registration form on following 2 pages.)

Focus on the Management and Technology of America's Cable Television Systems at CATA '86

OFFICIAL REGISTRATION FORM

July 15-17, 1986

Photocopies will be accepted. Please type or print.
Do *not* register more than *one* family per form. EXHIBITORS: Do *not* use this form.

Last First

NAME

Title

Nickname/First Name for Badge

Company/System

STREET ADDRESS

CITY, STATE

Telephone — Ext. State Zip

ADDITIONAL FAMILY MEMBERS

Spouse if registering

First name

Nickname/First Name for Badge

ADDITIONAL FAMILY ADULTS (over age 12)

Age First Name Badge Name

Age First Name Badge Name

Function

- ☐ 1. Owner
- ☐ 2. Manager
- ☐ 3. Operational Personnel
- ☐ 4. Technical Personnel

System Size

5. 0-500
6. 500-3500
7. 3501-13,500
8. above 13,500
9. Parent Company if MSO

Return to:

Registration Supervisor
CATA '86
P.O. Box 510
Thorofare, New Jersey 08086
Phone 609-848-1000

Spouse registration includes Exhibitors' Welcome Reception, all sessions, Bloody Mary Reception and CATA Brunch on Thursday. Spouse tours are available through the hotel.

Additional family members may attend the exhibits. Tickets are available for purchase to attend the closing Brunch on Thursday.

Registration Fees

☐ **CATA Members (A)**	175.00
☐ **CATA Member Spouse (B)**	125.00
☐ **Nonmembers (C)**	300.00
☐ **Nonmember Spouse (D)**	175.00
☐ **Additional Family Member (E)**	NC
☐ **CATA Brunch Tickets (F)** (for additional family members)	25.00

Spouse Tour Interest

- ☐ **Virginia City (G)**
- ☐ **Lake Tahoe Shopping Excursion (H)**

Total for registration, and tickets. $ _____

REGISTRATION DEADLINE - JUNE 15, 1986

On-site registration will be increased by $50.00 in each category. This does not apply to Brunch tickets.

Cancellation and Refund Policy

Cancellations must be in writing to CATA '86 and must be received on or before dates indicated. No refunds will be mailed until after the show. No refunds will be made after June 30, 1986.

Deadlines
May 31 - Full amount less $50.00 per person processing fee.
June 15 - Fifty percent of fees
June 30 - No refunds

Payment must accompany all registrations.

TOURS

Although we are not planning organized group tours in Reno, there will be daily tours available through Safari Tours which is located in the hotel.
Listed below are 2 samples of available offerings.

Virginia City Tour

A living history museum, Virginia City is a frontier town which was a mining metropolis in the 1870's. There are shops and historical interests throughout the city. Spouses will travel by bus from the MGM Grand Hotel RENO with plenty of time for browsing, lunch (on their own) and shopping. The return trip will take them through Carson City. The total tour time is five (5) hours.

Lake Tahoe Shopping Excursion

Leave MGM Grand Hotel and proceed to Truckee with narration of Reno/Tahoe/Truckee history with brief stop in Truckee. Proceed down Truckee River to North Shores of Lake Tahoe with three shopping malls, the Boatworks, the Roundhouse Mall, and the Cobblestone. Tahoe City is next stop for galleries, boutiques, lunch and whatever. From Tahoe City, buses come along North Shore to Mt. Rose Highway with sightseeing stops along the way. Total excursion time is six (6) hours.

It would be helpful to our planning if you would take a minute to mark the "Spouse" information category on the registration form when you register. Your interest and preference for tours will help us plan for activities in Reno. This implies no obligation. Thank you.

Housing Form
MGM GRAND HOTEL - RENO
COMMUNITY ANTENNA TELEVISION ASSOCIATION
July 15 - 17, 1986

Q NAME: CATA

Please make reservations for _____ persons

Name(s): _____

Address: _____

City/State: _____ Zip: _____

Arrival Date: _____ Arrival Time: _____

Departure Date: _____

		RATE
Single or Double Occupancy	☐	$66.00
Round King-Bedded Room	☐	$80.00
One-bedroom Suite	☐	$138-148.00
Two-bedroom Suite	☐	$201-221.00

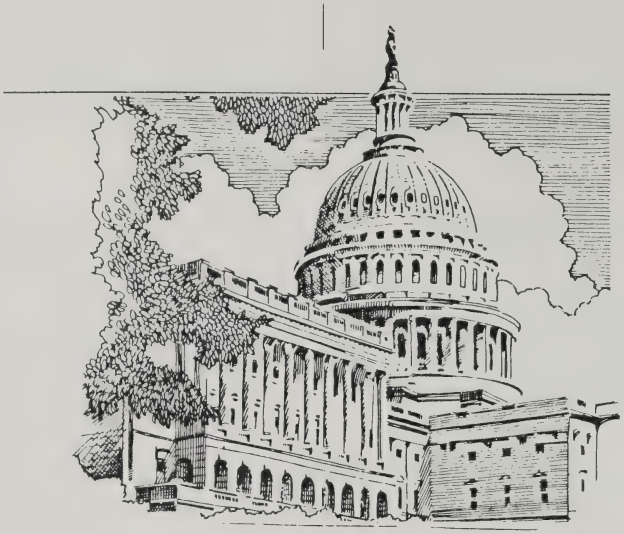
Deposit Amount:*$ _____ (All rates subject to 7% Washoe County Room Tax)
*One night's deposit is required to guarantee accommodations. Deposit refundable if reservation cancelled 24-hours prior to ARRIVAL. Please return reservation and deposit at least 30 days prior to arrival.

Reservation requests received after June 13, 1986 will be confirmed subject to room available.

Check out time is 12:00 Noon, therefore, guest room may not be available until 2:00 p.m.

Return form and deposit to: MGM Grand Hotel Reno
Reservations
2500 East Second Street
Reno, Nevada 89595

W·a·s·h·i·n·g·t·o·n U·p·d·a·t·e



SCRAMBLING— THERE'S JUSTICE IN OUR CAUSE!

And when we say "Justice", we **MEAN** Justice! The Justice Department, that is. They have now gotten more involved in the entire process of scrambling the satellite feeds by issuing what are know as "CID's" (Civil Investigative Demands) to a whole bunch of folks in the cable industry, including CATA. What does this mean? Well, apparently the Justice Department is investigating to see whether anything improper was done in the process (which is still going on) of establishing this new market for scrambled satellite signals.

As we have mentioned in these pages on several occasions, the process is fought with difficulties since things that can legally be done individually become questionable if done in concerted action. Now we don't believe anyone has done anything wrong, and of course we are fully cooperating with the Justice Department probe. The "CID'S" are, in effect, civil subpeonas—they require us to turn over all sorts of documents to the Department for their perusal. It's a time and money consuming process, but one that we do not think will lead too much further.

In any event, the process of scrambling continues, and the debates and battles on Capitol Hill are now heating up again. This, after all, is an election year! It's time for those wonderful folks up on Capitol Hill to "do their thing"—which basically means they are looking far more at vote counts than they are at any potential logic in the positions they take! You can bet we will be seeing some strange actions, especially regarding a scrambling "moratorium" in the coming months. **NOW** is the time to start writing your Senators and Congressmen to head off such an event.

The key here is not necessarily understanding the issue—they can find out what is really going on any time they want to by calling the CATA office or talking to you. The important thing now is to impress those folks with the fact that you serve hundreds, or thousands of their constituents, all of whom would look very dimly on the idea of forcing the programmers to GIVE AWAY programming to the HTVRO folks that your subscribers (their constituents) have to pay for. This is a classic case of the danger of the "free lunch" theory. In this case, a Senator or Congressman, in search of extra votes at election time, sees a bunch of very "single issue" votes out there—the home earth terminal folks. They want something that is very simple from his or her point of view—they want a

"moratorium" on scrambling so that they can continue to get free programming for a long as possible. The vote-seeker doesn't really care about the communications implications of this sort of thing, or the logic of it either—they just see several thousands voters—and in a rural area at that! That could mean an election—so "populism" becomes the order of the day, and the perception is that some "easy"votes can be won by catering to a very narrow, special interest—"the free lunch bunch". The more thoughtful legislators will also tell you not to worry, that they will clear the whole thing up after the election!

Well, we have to short-circuit this process. There are thousands of other voters for every one HTVRO radical (and, by the way, not all HTVRO owners are in this category—there are many who acknowledge that they are being asked to pay a fair price for what they are getting). Right now Congressmen and Senators are being inundated with letters from the "free lunch bunch"—it's time we started writing some letters too—not only from the cable operators, but from subscribers as well! They, after all, are the ones who will get hurt if there really is some legislation that controls prices, or restrains scrambling. They are the ones paying for the programming! How do you think they will feel about paying not only for what they get, but for what the HTVRO folks get too! After all, there is no such thing as a "free lunch"! If legislation like this takes place, it will force rates up to pay for the freeloaders. Tell your local city council what the situation is, tell the Lions Club—and especially, tell your subscribers when they come in to pay their bills! Have a couple sample letters for them to look at explaining the issue, and giving the address of their Congressmen and Senators. It's time to let our legislators know that whenever someone demands a "free lunch" for their vote, someone else has to pay for it! Please, don't just read this article, nod your head, and say "—yeah, CATA is right about that". **We'll wind up with a scrambling moratorium bill by election time if that is all you do!**

By the way, in the process of explaining all this to your subscribers, you should also be able to explain it to any home earth terminal folks who want to do business with you. There is, as you know, lots of misinformation out there, is still being peddled by some HTVRO dealers. There was even one recent ad that said, and we quote: "We Won—Congress Stops Scrambling". How's that for "clarifying" things for the American consumer! There is one bill we support that is now making its way through the

This notice appears as a matter of record only.
April 1986

Sold:

Palacios TV Cable Corp.

Serving
Palacios, Texas

Sale represents 1,560
basic subscribers.
Ross Buford
represented the sellers.

DANIELS
&ASSOCIATES
2930 E. Third Avenue
Denver, Colorado 80206
303/321-7550

Financial Services to the Cable Communications Industry.

House. It was written by Congressman Richardson (D-N.M.), and it would require that any place that sells HTVRO terminals, and the equipment itself have a conspicuous notice saying:

> *Certain private home use of satellite earth stations is permitted. Satellite earth station owners may be required to pay monthly charges for each of the satellite cable programming services they receive. Unauthorized interception of satellite transmissions of television network programming not primarily intended for cable television is strictly prohibited.*

The bill is numbered H.R. 4414. At the very least it will clear up some of the absurd confusion we are seeing in the marketplace right now. CATA supports the bill. **WE OPPOSE ANY LEGISLATIVE EFFORT TO REGULATE SCRAMBLING.** All of those bills are efforts to "solve" problems that do not really exist, or are being adequately handled in the marketplace. The best example is the "rationale" given for a moratorium bill that says that descramblers are not adequately available. This is simply not true. There are plenty of consumer descramblers sitting on the shelves, waiting to be shipped. If you don't stock them yourself, please write down these telephone numbers:

M/A COM—(800) 672-9597
Channel Master (919) 693-8081
Anixter—(800) 672-6190

Give them to all your office personnel. Any consumer who really wants to get a descrambler instead of just complain to Congress that they are "not available" can call any one of those organizations and buy one. M/A COM is even offering 24-hour delivery if someone really wants it! So enough of the "big lie" tactics that say the descramblers aren't available!

Also, as to prices, we think you can safely tell your elected representatives that the marketplace is working overtime! Showtime has already undercut HBO's "list" price, and both "list" prices are being offered by sales agents for the programmers. Again, the facts are there—we just have to get through to Congress. That's your job.

COPIES OF THE CABLE RULES TRY, TRY AGAIN

Well, we called three times, we got the instructions confirmed twice—we tried twice and failed, and finally the Government Printing Office assured us they had the right information, so we printed it last month on how to get a copy of the cable rules for your files (one is still required if you have more than 1,000 subscribers, you know). Just to check it out, we sent in our own check for a copy too. You guessed it, the check came back with new instructions! This time even though they swear they've got it right, we're still waiting for our copy. In case you would like to play this game too, the GPO says that what you now should do is ask for **"CFR Title 47 Parts 70-79"**. The Stock Number is **822-004-00158-6** . It costs $13.00. Send your order to the Government Printing Office, Superintendent of Documents, Washington, D.C. 20402. If we were you, we would keep a copy of the letter request on file in case the FCC inspectors show up. We also would not hold our breath until it arrived!

THE MINIMUM FEE FIASCO

One of the things we intend to talk to all the programmers about at CATA '86 in Reno is the problem of so-called "minimum fees". In some cases small operators are still being charged a minimum of $100 per month to carry programming to a very small number of subscribers. We know that the transactional costs are higher when you get to smaller numbers, but not that much higher! We are fully supporting the efforts by the National Cable Television Cooperative to negotiate a new payment package for these situations. A quarterly, half yearly or yearly payment makes a lot more sense. Then the "transaction cost" argument would seem to be alleviated. Mike Pandzik of the NCTC is leading the drive. He ,of course, will be at the CATA Show. So you can, and should, get together with him there.

SPEAKING OF WARNINGS

Remember the "privacy notice" we supplied you with last year to comply with the new Communications Act rewrite (S.66)? Well, those notices have to be given to ANY new subscriber when you hook them up, and they have to be sent to ALL subscribers once each year! There is some question, however, because we are dealing with "legalese", whether the "yearly" requirement refers to twelve month periods or to calendar years. The general consensus among Washington lawyers who we've asked is that notices must be sent once every **calendar** year. Of course, there has been no definitive ruling on the question. So to be on the safe side, you may want to send out your notices within the next month as it has been almost a year since the last time you sent them. That will make one less thing for you to do at the end of the year too! It has been about a year since the last time you sent them to everyone. You should be gearing up in the next month to do it again. Don't forget to do it, that can cause you all sorts of grief!

OOOPS!

Every once in awhile the keys on the old word processor move faster than they should, and something gets into print that is just out and out wrong. That's what happened last month when we said that X*PRESS is being transmitted on a subcarrier of WTBS. You'll never find it there! It's on a Cinemax subcarrier on the east coast and United Video feed on the west coast. Sorry about that!

Speaking of X*PRESS, thanks to those of you who have already let us know of your interest in participating in an "electronic CATAcable"— we fullly intend to go ahead with the project, and the X*PRESS folks are going to be in Reno to tell you more of the details themselves. It is going a little more slowly than anticipated because an inordinate amount of our time has been taken up dealing with the Justice Department /Scrambling stuff. It is still on track, though, and we would love to hear from you if you are interested in participating.

CABLE CARES ABOUT "JERRY'S KIDS"

Last year cable operators collected over $1 million for the Muscular Dystrophy Association in a coordinated campaign to secure new subscribers or upgrades linked with a donation to the MDA. It was an incredible success for a first-year effort. CATA was proud to be a part of that effort. We're doing it again this year, and hope it will benefit everyone even more.

The entire program is a "win-win" proposition. It gives cable operators wonderful visibility in their communities and lots of promotional support to get people hooked up to your cable system.

This notice appears as a matter of record only.
April 1986

Sold:

Southwest Cable TV
Serving
Hondo and Sabinal, Texas

Sale represents 1,550
basic subscribers.
Ross Buford
represented the sellers.

DANIELS
&ASSOCIATES
2930 E. Third Avenue
Denver, Colorado 80206
303/321-7550

Financial Services to the Cable Communications Industry.

At the same time, you are collecting or providing matching donations for a very worthy cause. Those operators who have participated say it is a true marketing bonanza, and a good thing to do as well. The MDA is going all out this year to help us do it again. There are ad slicks available, audio and video spots, and a whole host of other things. Give the CATA office a call and we will give you the number of your local MDA support staff. They will be able to provide you with all the material you need to run a sucessful campaign, for all of us. As should come as no surprise, the MDA folks will be out in Reno, also to provide any information you need. Of course, the entire campaign is geared around the national telethon hosted by Jerry Lewis over the Labor Day weekend, so your campaign for new subscribers should be off and running within a month after CATA '86. The timing is perfect—now just join in the action!

NETWORKING

No, this is not the type John Malone and Ted Turner have been talking about lately—that's the idea of starting direct competition with the Networks by developing our own programming. It's a very interesting idea, and one that could have a major impact on the future direction of the cable industry. We will have a full airing of that idea at the opening "Donahue" panel of CATA '86—The Networking" we are talking about here is the idea of reaching out and linking together all of the groups in the cable industry which are doing a terrific job, but seem never to talk to each other.

CATA, in the coming year, intends to develop as a centralized networking point for all of our colleagues. We have made a major start with the addition of Executive Vice President Jim Ewalt to the CATA staff. Jim knows just about everyone there is to know in the State and Regional cable associations, and we intend to work a lot closer with them in the coming months.

But there are lots of other good groups out there too! The Society for Cable Television Engineers (SCTE), Women in Cable (WIC), The Cabletelevision Advertising Bureau (CAB), The Cable Television Administration and Marketing Society (CTAM), The Cable Television Public Affairs Association (CTPAA), and more! CATA has made a point of contacting and starting to "Network" with all of these groups. Many of them will be represented in Reno, so you can learn more about them yourself. Each has its own speciality and expertise, and you can learn a whole lot from all of them. We are going to be giving you a sample of what these groups have to offer in future issues by printing their publication lists, and so on. We feel that by pooling our resources and "networking" the information that we all have, cable operators will have a broader opportunity to get the material and information they need to be most effective. None of these groups "compete". We are all trying to serve the industry. And we can serve the industry better by "networking"—we hope you will "tune in"!

NEVADA STATE ASSOCIATION TO HOLD MEETING AT CATA '86

The Nevada folks have decided to take advantage of the CATA '86 gathering in Reno on July 15-17 to hold their own meeting at the same time. We welcome their participation, and invite any other groups who may want to coordinate their meetings with ours to let us know soon, so we can arrange for Board Meeting rooms, etc. We are also hosting a meeting of State and Regional Association leaders during the show. Hope to see you there!

CATA PREPARES CHECKLIST OF FCC RECORDKEEPING RULES

Are you uncertain about what records and information the FCC requires you to keep or what belongs in your public inspection file? If so, join the crowd. With all the recent changes in the FCC's rules and regulations it's no wonder so many operators have called for help! Well, CATA has done something about it. We have prepared a checklist written in "plain English" of FCC recordkeeping requirements. This new CATAbrief is at the printer's right now and should be available within the next few weeks. □

L·e·t·t·e·r T·o T·h·e E·d·i·t·o·r

Dear CATJ Readers:

Below is a letter sent to us that requires response from other cable operators. CATJ will be happy to forward an answer or you may wish to make your answer direct to Mr. McIntosh; but we'd like a copy to print.

Dear Sirs:

I am a cable television operator. My partner, Harry S. Frazier, Jr., and I own cable systems throughout Michigan, Indiana, Kentucky, Florida and have systems under development in the Bahamas. We're not a giant in the industry, but we are large enough to be effective yet small enough to be concerned about each customer.

In my 18 years in the cable television industry I have watched and been a part of the razzle-dazzle era, when we were blue-skying cable's capability. Now I've found myself directly affected by all the shilly-shally of scrambling.

Arguments on all sides are persuasive. Pressure on Congress to stop or prevent scrambling is picking up.

From my personal perspective, I have yet to find one single persuasive reason as to how scrambling benefits me or my cable television customers. I remain unconvinced that it is good for the industry. Except for HBO, each programming service has put the burden of buying additional hardware on the operator, thus, scrambling is going to cost small cable television systems thousands of dollars without any benefit and our customers will ultimately have to bear the brunt of these unnecessary capital investments.

As a result of this reasoning, I am today encouraging our Representative to view H.R. 1769, the Satellite Television Viewing Amendments, which would implement a two-year moratorium on the scrambling of signals, in a positive light. Perhaps in the next two years, someone can figure out what benefit scrambling will be to anyone other than program suppliers who already get the majority of each dollar paid for cable service.

Sincerely yours,
P.E. McIntosh
President & Chief Executive Officer
First PIC Cable Television Corporation
2400 Bowman Ave.
Louisville, Kentucky 40217 □

This notice appears as a matter of record only.
April 1986

Sold:

Holliday Cablevision Inc.

Serving
Holliday, Texas

Ross Buford
represented the sellers.

DANIELS
&ASSOCIATES
2930 E. Third Avenue
Denver, Colorado 80206
303/321-7550

Financial Services to the Cable Communications Industry.

COALITION OPPOSING SIGNAL THEFT

TO RELOCATE TO WASHINGTON

The Motion Picture Association of America and the National Cable Television Association today jointly announced plans to expand efforts to combat theft of cable service through the **C**oalition **O**pposing **S**ignal **T**heft (COST).

COST initially was formed 18 months ago by segments of the cable and motion picture industries as an informational resource group to assist cable operators in initiating programs to reduce signal theft. COST now will relocate from New York to Washington, where staff resources will be provided by the NCTA's newly-formed Office of Cable Theft.

"Both the cable and motion picture industries lose when people steal cable service and so do our paying customers," said NCTA President James P. Mooney. "We are going to fight back against this abuse of our services."

"There now are laws on the books in Washington and many of the states which clearly state that theft of service is wrong and illegal," said MPAA President Jack Valenti. "With the full weight of the cable and motion picture industries behind COST, I think we will soon see effective enforcement of these laws," Valenti added.

COST will draw upon the expertise of an advisory board whose members will be representatives of cable multiple system operators, pay services, basic services, the NCTA, MPAA, **the Community Antenna Television Association,** individual MPAA members and sports programmers.

One of the key functions of COST will be to serve as a national clearinghouse to assemble and disseminate existing information and data that will help local cable operators conduct theft of service campaigns. Initial projects for the COST staff have been identified as assembly of an Industry Theft of Service Resource Packet, consolidation of existing audio-visual signal theft materials and establishment of state targets for model legislation. COST also will track legislation and litigation on the state level relating to theft of service. Formation of a three- to five-member executive committee and resource groups also will facilitate the implementation of COST programs.

A search is now underway for a director of the NCTA office, who will be director of COST. That person will be assisted by an assistant director of COST and a secretary. The COST staff will be employees of NCTA's Office of Cable Theft. □

First real meter you can hold in your hand

Easy
to read
one dB
resolution
BAR GRAPH

LOW PRICE: $219.00

HIGH PERFORMANCE
Shows two* individual
Signal Levels in one dB steps
(not an inaccurate composite
signal measuring device).
Measures all channels when used
with a standard TV Set Converter.
***Specify any two channel or pilot carrier combinations up to 300 MHz.**

Available at major CATV Distributors
Call or write for free color brochure

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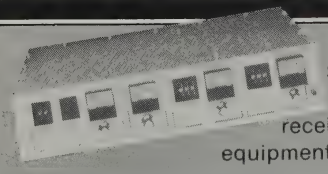
General Representative for Europe: Catec AG, Habsburgerstr 22, 6003 Luzern. Tel. 041/573636 Telex: 041/572796

3.9 Meter Earth Station Antenna

- Weather Scan 3.9 meter high performance, fiber-glass earth station
- Featuring a high efficiency prime focus feed system, this TVRO delivers 42 db gain at 4 GHz
- Availabilities include dual polarized or optional retrofit multi-feed
- The stand is EL-AZ type with 360° AZ adjustment and 5° to 70° EL adjustment

Recommended by many satisfied customers and qualified engineers. Used by TV stations for rebroadcast



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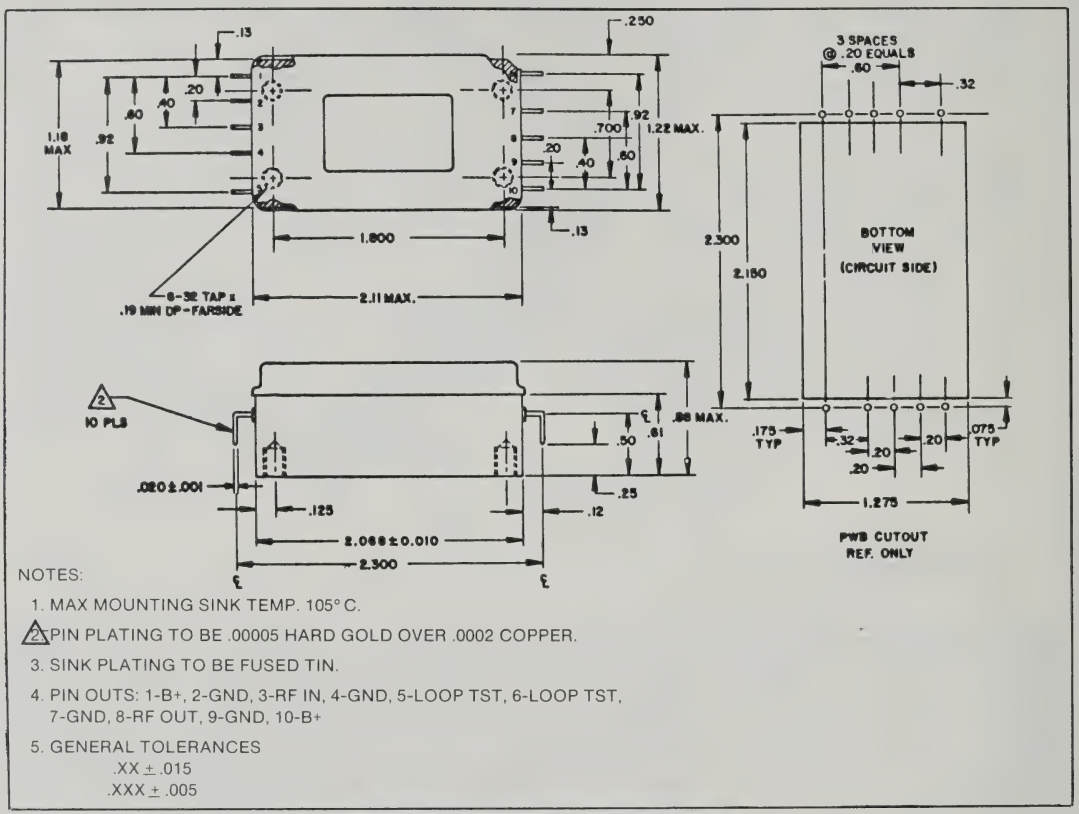
(continued from page 11)

THERMAL CHARACTERISTICS



NOTES:

1. MAX MOUNTING SINK TEMP. 105° C.
2. PIN PLATING TO BE .00005 HARD GOLD OVER .0002 COPPER.
3. SINK PLATING TO BE FUSED TIN.
4. PIN OUTS: 1-B+, 2-GND, 3-RF IN, 4-GND, 5-LOOP TST, 6-LOOP TST, 7-GND, 8-RF OUT, 9-GND, 10-B+
5. GENERAL TOLERANCES
   .XX ± .015
   .XXX ± .005

FIGURE 2

that the maximum ambient temperature is +60°C (+140°F) then the maximum feedforward heat sink temperature will be 91.2°C (196°F). Note: this number includes thermal input from solar radiation.

SECTION II: THERMAL CHARACTERISTICS OF THE FEEDFORWARD GAIN BLOCK

A major source of problems with previous attempts at developing a broadband feedforward amplifier for CATV applications has been the construction techniques utilized. Feedforward gain blocks consisted of two conventional dual push-pull hybrid amplifiers, two lumped element or distributed element delay lines, four discrete directional couplers and miscellaneous elements for fine-tuning response. This approach suffered from performance degradation as a result of several parameters, among which are: thermal variations, mechanical shock and time.

The single hybrid approach has the advantage of superior performance with respect to the above parameters. Hybridization has inherent to it the advantage of improved reliability over a discrete approach due to the elimination of many mechanical and electrical interfaces. The components used in such an approach are of significantly lower mass and are mounted in a manner that results in greater immunity to mechanical shock. Most importantly the package has been designed with special attention paid to thermal

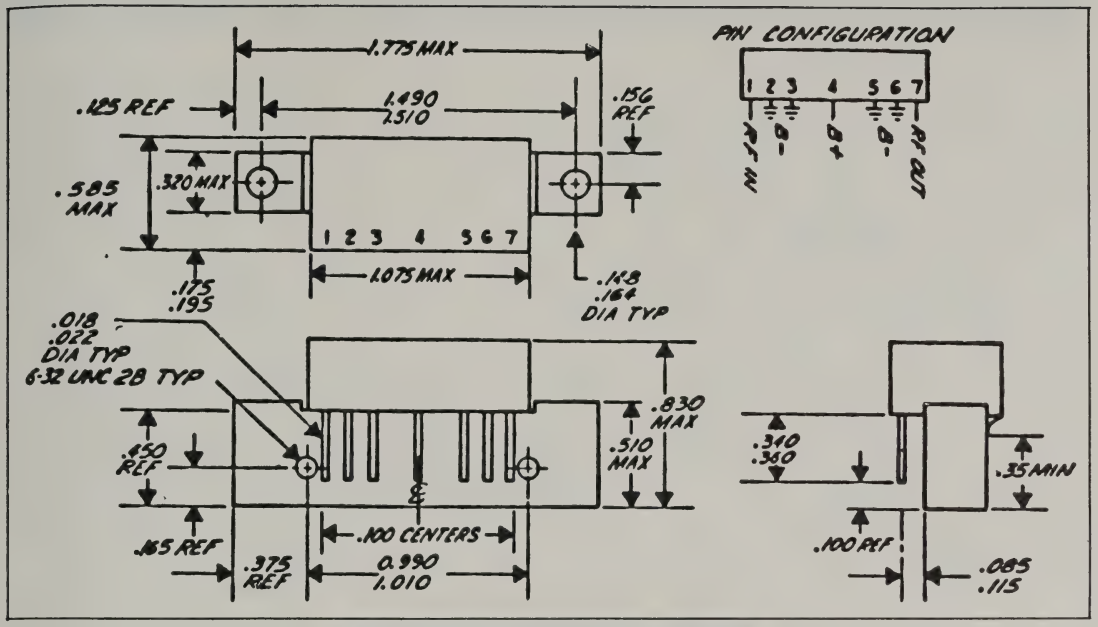
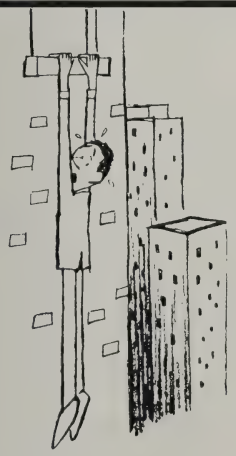


FIGURE 3



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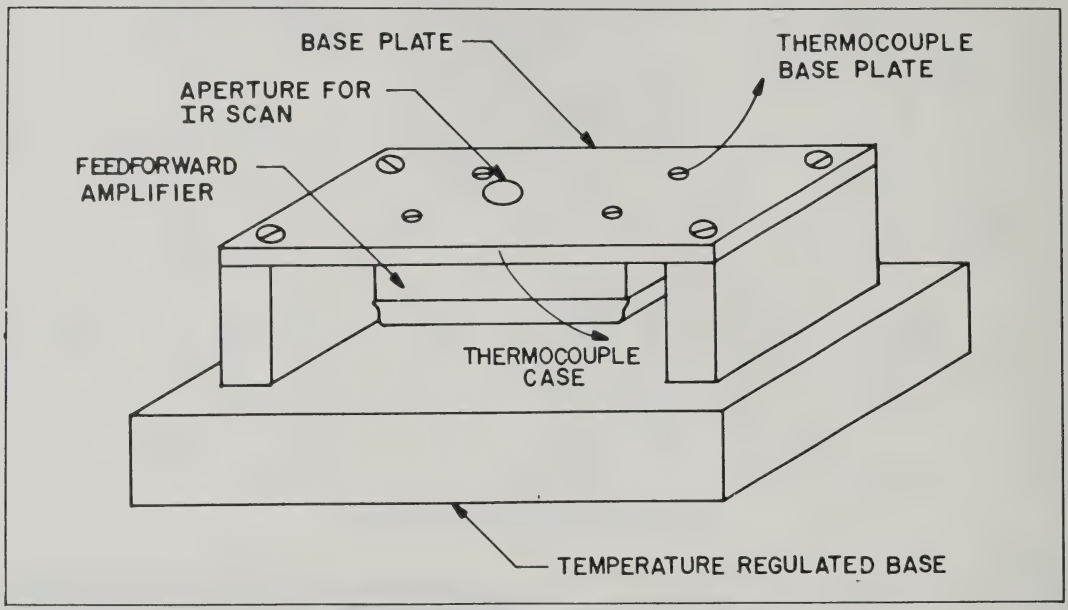

FIGURE 4

THERMAL SCAN FIXTURE FOR THE FEEDFORWARD PACKAGE

characteristics resulting in **an actual reduction of worst case transistor die operating temperatures over a discrete two-hybrid approach.**

The single hybrid feedforward package has significantly larger heat sinking surface area than the combined surface area of two conventional push-pull hybrids. The heat sinking area of a conventional hybrid approach is given by twice the heat sink area of a push-pull hybrid or (see Fig. 3):

$\text{Area}_{hs} = 2 \times 0.320\text{in} \times 1.775\text{in} = 1.136\text{in}^2$

The heat sink area of the single hybrid feedforward block is given by (see Fig. 2):

$\text{Area}_{hs} = 2.068\text{in} \times 1.18\text{in} = 2.440\text{in}^2$

or more than twice the heat sinking area.

Experimental data has been taken to confirm the superior thermal characteristics of the hybrid feedforward gain block. The details of this measurement follow:

1. **Thermal Scan Fixture for the Feedforward Package**

   The package is mounted on a base plate in the same kind of arrangement as it is being used in the field. (Figure 4) A hole is made through the base plate and the package to monitor the infrared emitted by the transistor dice. The whole fixture is mounted on a temperature regulated base. Thermocouples, situated in the package near the base and on the base plate are used to monitor the package temperature.

2. **Principle of Measurement**

   An infrared microscope with a 15x objective (giving a spot size of approximately 2 mils) is focused on the hottest point of each die.

THERMAL CHARACTERISTICS

A reading of the radiation emitted by the die is recorded. The power is then shut off and the whole package is brought to a temperature that gives the same reading. This temperature is the die temperature measured by the I.R. microscope.

3. **Transistor Temperature in the Feedforward Amplifier**

The power dissipation of the output stage transistors of the amplifier gain blocks are shown in Figure 5.

The temperature of the four transistors, Q1 through Q4, of the error amplifier have been recorded for 2 different case temperatures.

The maximum die temperature is +142° C when the feedforward case temperature is +100° C.

Measurements were made on an 18 dB gain block using the same transistors as in the feedforward amplifier. The results were:

1) Thermal resistances are on the average 4° C lower in the feedforward package than in the standard CATV package.

2) The hottest die temperature in the feedforward amplifier is 14° C lower than in a standard CATV amplifier for the same case temperature.

3) It has been shown by over two years of reliability data that a junction temperature of +150° C will result in a mtbf in excess of

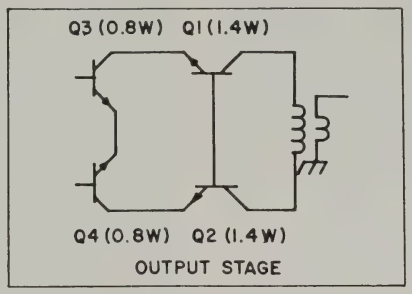

FIGURE 5

Power Dissipation of the Output Stage Transistors

	+65°C CASE		+100°C CASE	
	TEMPERATURE	θjc	TEMPERATURE	θjc
Q1	+100°C	25°C/W	+140°C	29°C/W
Q2	+105°C	29°C/W	+142°C	30°C/W
Q3	+ 89°C	30°C/W	+124°C	30°C/W
Q4	+ 89°C	30°C/W	+128°C	35°C/W

February, 1986

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142 years. The worst case junction temperature seen by the hybrid feedforward gain block mounted in a Scientific-Atlanta trunk station is significantly less than +142° C. The resulting reliability far exceeds the requirements of a CATV amplifier.

SECTION III: FEEDFORWARD PERFORMANCE AS A FUNCTION OF OPERATING TEMPERATURE.

Feedforward distortion performance is the result of extremely fine adjustment of the amplitude and phase characteristics of the two feedforward R.F. signal loops. De-tuning of these signal loops will result in a serious degradation of distortion cancellation.

Previous attempts at feedforward have been seriously impaired by the effects of temperature on the feedforward cancellation. The two hybrid push-pull amplifiers maintained their own independent thermal operating characteristics. The delay lines suffered as a result of mechanical variations from thermal expansion and contraction. Consequently, distortion cancellation suffered serious reduction as the amplifier's operating temperature changed.

The single hybrid approach to feedforward has virtually eliminated these problems. The two push-pull R.F. amplifiers are of a special design that includes thermal compensation to stabilize amplitude and phase response. Moreover, both amplifiers are mounted to the same heat sink to ensure temperature tracking. Delay lines are fabricated on a single ceramic substrate and mounted to a single heat sink for temperature tracking.

RF amplifiers and delay lines are measured in an automatic network analyzer station and matched by computer sorting. This eliminates the need for numerous manual tuning adjustments that suffer as a result of temperature variations. Hybridization also results in the elimination of inter-connections and a reduction of size in components, both of which suffer as a result of thermal variations.

The hybrid feedforward amplifiers are tuned at an elevated temperature close to be the center of the operating range. This minimizes distortion degradation at both temperature extremes.

Figure 7 is a graph depicting the Composite Triple beat performance vs. heat sink temperature of a typical hybrid feedforward gain block. The

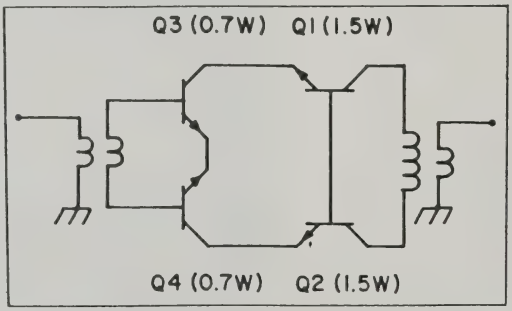

FIGURE 6

Power Dissipation in Standard CATV Amplifiers

	+65°C CASE		+100°C CASE	
	TEMPERATURE	θjc	TEMPERATURE	θjc
Q1	+115°C	33°C/W	+151°C	34°C/W
Q2	+120°C	36°C/W	+159°C	39°C/W
Q3	+ 89°C	34°C/W	+125°C	36°C/W
Q4	+ 85°C	28°C/W	+120°C	28°C/W

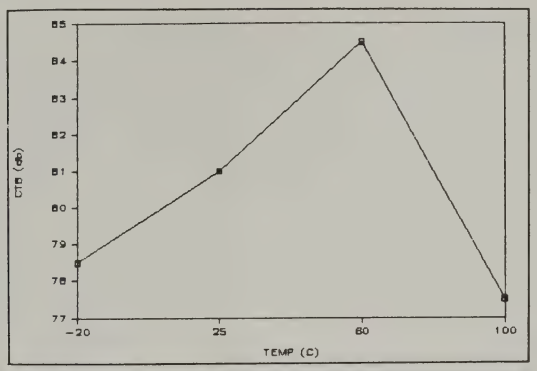

FIGURE 7

measurement was made at 445.25MHz with full 450MHz channel loading at an output level of +48dBmV with +3dB of linear tilt. The graph demonstrates how tuning at an elevated temperature tends to equalize the distortion performance degradation at the temperature extremes.

CONCLUSION

The feedforward concept has been around for many years. However, only in the past year have advances in hybrid amplifier technology made a reliable broadband feedforward CATV amplifier possible.

A feedforward station design must include consideration of thermal factors as these factors impact both distortion performance and reliability. One must consider how much heat is generated and how effectively this heat is removed from the station. As the analysis indicates, when these factors are carefully considered the feedforward station becomes a practical reality.

ACKNOWLEDGEMENTS

I would like to thank Mr. Jack Powell and his staff at TRW RF Devices Division for their help in obtaining data regarding the transistor dice operating temperatures within the hybrid RF amplifier.

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March, 1986

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SCIENTIFIC ATLANTA INTRODUCES NEW PRODUCTS

SATELLITE RECEIVER FOR CATV APPLICATIONS

Scientific-Atlanta, Inc., introduced their Model 6680 receiver, an advancement in the art of quality video, audio and data reception. The new receiver is the second generation of the field-proven Series 6650 receiver.

New features and design concepts incorporated in the Model 6680 include an improved RF converter for lower input return loss and phase noise. The new video demodulator is designed for increased performance in the presence of today's multiple subcarrier transmissions and demodulating high-speed data with the utmost accuracy. A tuneable audio subcarrier demodulator has been added to the receiver to provide immediate retuning to any desired subcarrier service.

Because the receiver is designed for use with Scientific-Atlanta's Series 360 low-noise blockconverter, the need for expensive microwave components in the receiver is eliminated. Overall system cost is also reduced because low-cost cable can be used for the antenna-headend connection.

Designed and engineered for operating flexibility, the Model 6680 features modular construction, accepting plug-in cards to allow a variety of system applications and simplify field service. The rear panel of the receiver provides such added conveniences as a new IF loop to facilitate the addition of terrestrial filters, quick-connect terminals for audio and d.c. voltage, a second video output port, and a polarization control switch to allow three alternatives for operation of the internal coax switch.

600 MHZ TAPS & PASSIVES

Also, announced is a new line of 600 MHz taps and passives with features that improve performance for CATV distribution systems operating in unfavorable climatic conditions.

The new products complement the company's existing line of Series SAT two-, four- and eight-way taps; Series SAS two- and three-way splitters; Series SADC directional couplers and Series SAIF power inserters. All of the products are available in coated and uncoated versions and come standard with RF gasketing. The new 600 MHz products are now available.

All of the coated products feature brass F ports with tin plating to prevent the formation of galvanic corrosion between the drop cable connector and the F port on the tap. The new coating finish is of the "baked powder" variety, which more effectively seals the devices from moisture for additional corrosion protection.

"Our tests have shown this new powder coating to be more resistant to flakes and scratches than the current industry standard of paint," said Perry D. Tanner, marketing manager for Scientific-Atlanta distribution products. "Continuing research and development efforts, along with feedback from our customer, have once again helped us improve the operating efficiency of our products."

SET-TOP FOR 550 MHZ SYSTEMS

Also, announced is the new Model 8526 digital set-top terminal, an advanced programmable unit designed to operate in 550 MHz cable television systems. The unit complements the company's Model 8525 digital set-top terminal, which was introduced earlier this year for operation in systems up to 450 MHz. The new product is available immediately.

The Model 8526 digital set-top terminal features a unique method of programming service authorizations, utilizing the unit's infrared remote control receiver to configure its non-volatile memory. The need for a custom-configured PROM is eliminated, as is the requirement for opening the product to prepare it for service in the field.

"We have designed a product that is extremely easy to place into service," said Stephen K. Necessary, marketing manager for Scientific-Atlanta subscriber products. He continued, "The set-top terminal is delivered fully-configured with all channels authorized and remote control enabled. If the operator desires a change, our subscriber options transmitter is used to change configurations with the press of a button. With this arrangement, entire groups of set-top terminals can be configured simultaneously in a matter of seconds for channel authorizations, subscriber-defineable parental control and enabling or disabling the remote control."

The 8526 set-top terminal is covered by Scientific-Atlanta's three-year limited warranty, announced in November.

For more information, contact Scientific-Atlanta at One Technology Parkway, Box 105600, Atlanta, Georgia 30348; telephone (404) 441-4000.

NEW JERROLD VCR CONVERTER OPTION LETS SUBSCRIBERS RECORD MULTIPLE PROGRAMS

The Jerrold Division of General Instrument has announced an addressable converter option that permits time-controlled VCR recording of multiple cable programs. In addition, the option enables automatic turn-on and shut-off of a TV set or light using an auxiliary time-controlled outlet.

The new Jerrold VCR option allows subscribers to program the STARCOM® VI addressable converter to turn on and tune to designated channels for VCR recording at preset dates and times. The converter is programmed simply by pressing the Time Controlled Programming (TCP) button on the Jerrold IR remote control unit and entering the programming parameters (date, time and channel).

The new VCR-compatible converter gives subscribers a number of unattended recording options in addition to the capability for attended program recording on a daily basis. It allows unattended recording of up to four different events over a 31-day period. Or, if subscribers want to record favorite programs every day, the VCR converter option allows unattended recording of up to four programs on a daily basis.

Subscribers may enter, review and edit their programming parameters and change programming information in a matter of seconds. The time-controlled programming function can be used for morning wake-up and late night TV shut-off. If a light is plugged into the converter's auxiliary outlet, the TCP function can be used to turn it on and off.

The timing clock parameters in the Starcom VI VCR-compatible converter are resident in the data stream of the Jerrold AH-4 addressable control computer, requiring no action by the cable operator.

The VCR option is an opportunity for operators to gain additional revenues by charging subscribers for this new feature. At the same time, the addressable computer provides a direct control capability over the option that ensures the protection of this additional revenue.

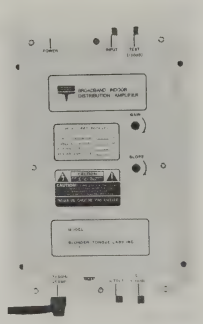
According to Pete Morse, vice president of marketing for the Jerrold Subscriber Systems Division: "Jerrold is providing cable operators with products and educational materials that let consumers take full advantage of their video and audio equipment. Jerrold's new VCR option addresses many of the issues associated with VCR's and converters and demonstrates the company's long-term commitment to the CATV industry to provide practical solutions to consumer issues."

Morse said the new VCR option is available immediately in STARCOM® VI two-way upgradable addressable converters and that this option is priced at $10.

TWO NEW INDOOR AMPLIFIERS INTRODUCED BY BLONDER-TONGUE

Blonder-Tongue Laboratories, Inc., has announced the introduction of two new broadband indoor distribution amplifiers designed for CATV and SMATV signal distribution systems which use a cable drop as a signal source.

Both models, the BIDA 300-50, with 50 to 300 MHz bandpass, and



TWO NEW BROADBAND INDOOR DISTRIBUTION AMPLIFIERS ARE AVAILABLE FROM BLONDER-TONGUE

the BIDA 450-50 with 50 to 450 MHz bandpass are configured for one-way operation. Optional field installable modules are available for the addition of two-way capability with either a passive or active sub-channel return path.

BIDA Amplifiers are ideal for critical signal distribution applications requiring high gain since both have a flat operating gain of 51 dB. Gain can be adjusted down to 41 dB with the unit's variable attenuator. These amplifiers exceed FCC specifications for both conducted and radiated interference at full output level. For applications where input signal levels are too high or where greater cable equalization is necessary, the BIDAs can be configured by using plug-in attenuators and cable slope equalizers to meet particular system requirements.

All controls and indicators are externally accessible. These include two -30 dB backmatched test points, gain and slope controls, LED pilot light and fuse.

The BIDAs aluminum chassis is specially designed to provide excellent heat dissipation, allowing the amplifier to operate at high ambient temperatures (+ 140° F) with no degradation of performance or reliability. •

S·h·o·w·c·a·s·e

BLONDER-TONGUE INTRODUCES TWO NEW HEADEND COMBINERS

Blonder-Tongue Laboratories, Inc., has announced two new headend combiners for use in MATV, CATV or SMATV systems.

Blonder - Tongue's OCA-8 (Stock No. 5952) is an active output combiner with eight broadband input ports. It is used in headends to combine, then amplify, up to eight modulators and/or processors. The OCA-8 provides a thruline input port for mixing its high level output with other signal sources.

The OCA-8 features a manual gain control and a -20 dB test jack that permit testing and output level adjustments without removing or disconnecting the unit from the headend. The amplified combiner exhibits excellent performance throughout its output level adjustment range. The OCA-8 features high isolation between ports and a low loss thruline input. Bandpass flatness for any eight adjacent channels, within its bandpass, has been optimized for a flat response.

The companion Blonder-Tongue OC-8 (Stock No. 5951) is a passive output combiner with eight broadband input parts. It is also used in headends to combine up to eight modulators and/or processors. The OC-8 provides a thruline input port for mixing its combined output with other sources and is manufactored with 80dB Radiation-proof passives.

The OC-8 features high isolation between ports and a low net combining loss from each of the eight inputs and the thruline input. A -20 dB test jack, on the front panel, permits testing without removing the unit from the headend. Headend output levels may be conveniently adjusted without disconnecting any equipment.

Either unit can be cascaded to provide more than eight channels in larger systems. Both the OC-8 and OCA-8 are compact (only 1-¾" high) and are designed for mounting in a standard 19" EIA rack.

For more information, contact Blonder-Tongue at (201) 679-4000 or write One Jake Brown Road, Old Bridge, N.J. 08857 •

STUDIOLINE ESTABLISHES WARRANTY SERVICE CENTER FOR STEREO-TRACK™ DECODERS

Studioline Corporation of America has announced the establishment of a national distribution and warranty maintenance center for the company's Stereo-Track™ audio decoders. The 5,000 square-foot facility is located in Austin, Texas.

Stereo-Track decoders come with a one-year limited warranty on all parts and labor. Studioline imports finished decoders and parts from the manufacturer, Tokyo-based Weston Corporation.

In making the announcement, Studioline President John L. Humphreys said, "Austin will be 'home base' for all servicing, maintenance and warehousing of our decoders. The city is centrally located, and has easy access to the port of Houston." Studioline and the Weston Corporation have jointly appointed the Westech Corporation of Austin to manage the facility, according to Mr. Humphreys.

The address of Studioline's new national Distribution center is: STUDIOLINE DISTRIBUTION AND WARRANTY MAINTENANCE CENTER, 7719-C New East Riverside Drive, Austin, Texas 78744, Phone: (512) 385-1335.

"Studioline's adaptive delivery system and nine-channel premium

music package turn stereo delivery into a money-making business opportunity for cable operators," Mr. Humphreys added. "With the new Austin facility, we'll be able to deliver Stereo-Tracks to our affiliates and service them promptly."

The fully addressable, auto-tracking Stereo-Track decoder, which is placed in the cable subscriber's home, can be used to deliver Studioline's nine music channels plus stereo sound for up to 60 additional cable satellite and off-air TV signals. With custom-designed signal companding, Studioline's analog transmission system yields digital quality sound (88-92 dB S/N) without the disadvantages of a digital transmission system, such as excessive bandwidth requirements. The system is compatible with all stereo delivery methods, including BTSC.

In addition to the Stereo-Track delivery system, Studioline produces and distributes Studioline Cable Stereo™, a nine-channel package of premium ("pay") music services for the cable industry. The nine music formats include: Adult Contemporary, Contemporary Hits, Urban Contemporary, Country, Easy Listening, Classical, Jazz, Album Rock and a Specials and Variety channel. Each format operates 24 hours a day, without commercial interruption.

The music services are produced in-house by Studioline's expert production staff. Studioline uses extremely high quality source material, including compact discs, record company submasters and audiophile pressings of LPs. Every musical selection undergoes rigorous quality control and noise reduction procedures. Studioline's Stereo-Track transmission system ensures that the superior quality of the programming remains intact until is reaches the subscriber's home.

Head-end audio processing gear for the Studioline transmission system is manufactured and supplied by FM Systems, in association with Leaming Industries, in Costa Mesa, California.

Studioline Cable Stereo is fed by satellite on the audio subcarriers of SATCOM III-R, Transponder 19 and Galaxy I, Transponder 13. (C-SPAN uses the video portion of each transponder.) □

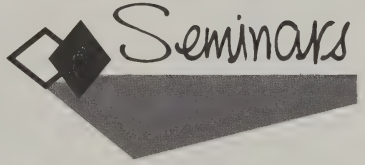
JERROLD TECHNICAL SEMINAR DATES ANNOUNCED

Len Ecker has announced the dates and locations for his Jerrold Technical Seminars through early 1987.

Ecker's schedule will carry him to the following cities on the following dates:

May 6-8	Dallas HolidayInn, 1930 E. Airport Freeway
July 8-10	Chicago Best Western O'Hare 1750 S. Elmhurst
Aug. 5-7	Holyoke, Mass., Holiday Inn, 242 Whiting Farms Road
Sept. 9-11	Columbus, Ohio
Oct. 7-9	Atlanta
Nov. 11-13	Hatboro, Jerrold, 2200 Byberry Road
Jan. 87	San Francisco
Feb. 87	Orlando, Fla.

For additional information concerning upcoming seminars contact Joan Thielen, 215-674-4800, ext. 261



C-COR ELECTRONICS, Inc., will be conducting a technical seminar for CATV Technicians in Baltimore:
June 24-26, 1986
Specifics on the seminar:

Dates:	June 24-26, 1986
Location:	Baltimore, MD.
Times:	8:00 a.m. to 5:00 p.m. each day
Cost:	$150 per person
Contact:	Debra Cree 800-233-2267; in PA 814-238-2461

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Cable Graphic Sciences
7095 N. Clovis Ave.
Clovis, CA 93612
209—297-0508
(M9 Character Generators)

Communications Equity Associates,
851 Lincoln Center,
5401 W. Kennedy Blvd.,
Tampa, FL 33609
813—877-8844
(S3)

ComSonics, Inc.,
P.O. Box 1106,
Harrisonburg, VA 22801
1-800—336-9681
(M8, 9, S8, 9)

The Disney Channel
500 S. Buena Vista
Burbank, CA 91521
213—840-5080
(S4)

Ditch Witch,
P.O. Box 66,
Perry, OK 73077
1-800—654-6481
(M9)

The Drop Shop Ltd., Inc.,
Box 284,
Roselle, NJ 07203
1-800—526-4100 or
1-800—227-0700 (West)
(D3, 4, 5, 6, 7, 8, 9, M5, 6, 7, 8, 9 Plastics)

Durnell Engineering Inc.,
Hwy 4 So.
Emmetsburg, IA 50536
712—852-2611
(M9)

Eagle Com-Tronics, Inc.,
4562 Waterhouse Rd.,
Clay, NY 13041
1-800—448-7474
(M9, Pay TV Delivery Systems & Products)

Eastern Microwave, Inc.,
3 Northern Concourse,
P.O. Box 4872,
Syracuse, NY 13221
315—455-5955
(S4)

Electroline TV Equipment, Inc.,
8750-8th Ave.,
St. Michel,
Montreal, Canada
H1Z 2W4
514—725-2471
(M4, 5, 7, 9, D7, 9)

Electron Consulting Associates,
Box 2029,
Grove, OK 74344
918—786-5349
(M2, D1, S1, 8)

ESPN,
ESPN Plaza,
Bristol, CT 06010
203—584-8477
(S9)

Charles Greene & Assoc. a division of AMCOM, Inc.,
Bldg. E, Suite 200,
5775 Peachtree-Dunwoody Rd., N.E.,
Atlanta, GA 30342
404—256-0228
(S9, Brokering & Consulting)

Group W Satellite Communications
41 Harbor Plaza Dr.,
P.O. Box 10210,
Stamford, CT 06904
203—965-6219
(S4)

Harmon & Company
5660 S. Syracuse Circle
Greenwood Plaza,
Englewood, CO 80111
303—773-3821
(S3)

Heller-Oak Communications
105 W. Adams St.,
Chicago, IL 60603
1-800—621-2139 ext. 7600
(S3)

Home Box Office, Inc.,
12750 Merit Dr.
Dallas, TX 75251
214—387-8557
(S4)

Ind. Co. Cable TV, Inc.,
P.O. Box 3799
Hwy. 167 N,
Batesville, AR 72501
501—793-4174
(D1)

* **Jerrold Division General Instrument**
2200 Byberry Road
Hatboro, PA 19040
(215) 674-4800
(M1, 2, 4, 5, 6, Converters)

* **Jerry Conn Associates, Inc.,**
P.O. Box 444,
Chambersburg, PA 17201
1-800—233-7600
1-800—692-7370 (PA)
(D3, 4, 5, 6, 7, 8)

KMP Computer Services, Inc.,
135 Longview Dr.,
Los Alamos, NM 87544
505—662-5545
(S4, 5)

Distributors	Manufacturers	Service Firms
D1—Full CATV equipment line	M1—Full CATV equipment line	S1—CATV contracting
D2—CATV antennas	M2—CATV antennas	S2—CATV construction
D3—CATV cable	M3—CATV cable	S3—CATV financing
D4—CATV amplifiers	M4—CATV amplifiers	S4—CATV software
D5—CATV passives	M5—CATV passives	S5—CATV billing services
D6—CATV hardware	M6—CATV hardware	S6—CATV publishing
D7—CATV connectors	M7—CATV connectors	S7—CATV drop installation
D8—CATV test equipment	M8—CATV test equipment	S8—CATV engineering
D9—Other	M9—Other	S9—Other

Katek, Inc.,
215 Wood Ave.,
Middlesex, NJ 08846
201—356-8940

LRC Electronics, Inc.,
901 South Ave.,
Horseheads, NY 14845
607—739-3844
(M7)

Larson Electronics, Inc.,
311 S. Locust St.,
Denton, TX 76201
817—387-0002
(M9 Standby Power)

Lifetime
1211 Avenue of the Americas
4th Floor
New York, NY 10036
212—719-7230
(S9, Programming)

Lindsay America, Inc.
P.O. Box 15775
1202 B West 19th St.
Panama City, FL 32405
904—769-2321

Long & Aldridge
1900 Rhodes Haverty Bldg.
134 Peachtree St.
Atlanta, GA 30043
404—681-3000
(S9, Law)

MA/COM Cable Home Group
P.O. Box 1729
Hickory, NC 28603
1-800—438-3331
(M2, 3, 7, S2)

Magnavox CATV Systems, Inc.
100 Fairgrounds Dr.,
Manlius, NY 13104
315—682-9105
(M2, 3, 7, S2)

Meyer, Capel, Hirschfeld Law Office
306 W. Church St.
P.O. Box 577
Champaign, IL 61820
217—352-7941
(S9, Law)

* **Microwave Filter Co.,**
6743 Kinne St., Box 103,
E. Syracuse, NY 10357
1-800—448-1666
(M9 Bandpass Filter)

Panasonic Industrial, Co.,
One Panasonic Way
Secaucus, NJ 07094
201—392-4109

Power and Telephone Supply Company, Inc.
530 Interchange Drive N.W.,
Atlanta, GA 30336
1-800—241-9996
(D1)

Quality RF Services, Inc.
850 Park Way
Jupiter, FL 33477
305—747-4998
1-800—327-9767
1-800—433-0107 (In Florida)
(M4, S9)

Regency Cable Products,
4 Adler Dr.
East Syracuse, NY 13057
1-800—292-0220

Riser/Bond Instruments
formerly
Av-Tek, Inc.,
Box 188,
Aurora, NE 68818
402—694-5201
(M8)

RMS Electronics
50 Antin Place
Bronx, NY 10462
1-800—223-8312
1-800—221-8857 (Poleline)
(M4, 5, 6, 7, 9)

Sadelco, Inc.,
75 West Forest Ave.,
Englewood, NJ 07631
201—569-3323
(M8)

Satellite Syndicated Systems, Inc.,
P.O. Box 470684
Tulsa, OK 74147
918—481-0881
(S9)

Scientific Atlanta,
P.O. Box 105600
Atlanta, GA 30348
404—441-4000

Showtime/The Movie Channel, Inc.
1633 Broadway,
New York, NY 10019
212—708-1600
(S4)

Studioline Cable Stereo
11490 Commerce Park Dr.
Reston, VA 22091
703—648-3200
(S9, Audio Program)

Telstar Marketing & Consulting
C.T.H."F" 2930
Blue Mounds, WI 53517
608—437-5460
(S9)

* **Texscan Corp.,**
3102 N. 29th Ave.,
Phoenix, AZ 85017
602—252-5021
(M4, M5, M8, M9)

* **Times Fiber Communications,**
358 Hall Avenue,
Wallingford, CT 06492
1-800—243-6904
(M3)

Tocom, Inc.,
P.O. Box 47066,
Dallas, TX 75247
214—438-7691
(M1, 4, 9 Converters)

* **Toner Cable Equipment, Inc.,**
969 Horsham Rd.,
Horsham, PA 19044
1-800—523-5947
In PA 1-800—523-492-2512
also 1-800—523-5947 (PA)
(D2, 3, 4, 5, 6, 7, 8, S4, 5)

Triple Crown Electronics, Inc.,
4560 Fieldgate Dr.,
Mississauga, Ontario,
Canada L4W 3W6
416—629-1111
Telex 06-960-456
(M4, 8)

Turner Broadcasting System,
1050 Techwood Dr.,
Atlanta, GA 30318
404—898-8500

TV Watch, Inc.,
1819 Peachtree Rd. N.E.
Atlanta, GA 30309
1-800—554-1155
(S9)

United Press International
220 East 42nd St.,
New York, NY 10017
212—682-0400
(S9 Automated News SVC)

United Video, Inc.,
3801 South Sheridan Rd.,
Tulsa, OK 74145
1-800—331-4806
(S9)

USA Network
303 East Ohio Street
Time & Life Bldg. Suite 2701
Chicago, IL 60611
312—644-5413
(S9)

Viewstar, Inc.,
705 Progress Ave.,
Unit 53,
Scarborough, Ontario,
Canada M1H 2X1
416—439-3170
(M9 Cable Converter)

Vitek Electronics
710 Narragansett Park Dr.
Pawtucket, RI 02861
401—724-4400

Walsh, Walsh, Sweeney & Whitney, S.C.
P.O. Box 1269,
Madison, WI 53701
608—257-1491
(S9)

* **Wavetek Indiana**
5808 Churchman,
Beech Grove, IN 46107
1-800—428-4424
TWIX 810—341-3226
(M8)

Weatherscan,
Loop 132,
Throckmorton Hwy.,
Olney, TX 76374
817—564-5688
(D9, Sony Equip. Dist., M9 Weather Channel Displays)

Western Towers
Box 2040
San Angelo, TX 76902
915—658-6539/653-5291
(M2, 9 Towers)

Zenith Radio Corp.,
1000 N. Milwaukee Ave.
Glenview, IL 60025
312—391-8195
(M1, 6)

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